(vi) Functional Buildings of Railway Stations and Airports like waiting rooms, retiring rooms, rest rooms, inspection bungalows and catering units.

(vii) Community Centres, Banquet Halls, Barat Ghars, Kalyan mandaps and buildings for similar use..

In order to promote the wider use of solar water heating systems among institutional and individual users, financial and fiscal incentives like soft loans and accelerated depreciation benefits are being provided. Loans are being provided at low interest rates to individuals through six banks.

(c) and (d) The subject has been discussed several times in the meetings Of the State/Union Territory Governments taken by the Ministry. As a result of these meetings and further interaction, the Governments of Andhra Pradesh, Haryana, Himachal Pradesh, Madhya Pradesh, Punjab, Rajasthan and the Union Territory of Dadra and Nagar Haveli have made installation of solar water heaters mandatory in functional buildings in the state sector. Also on the basis of the requests received from State/UT Governments, the coverage of the banks providing soft loans for solar water heating systems has been extended. Support is being given to state renewable energy agencies to organize business meets and workshops to promote this concept further.

Producing Energy Items

716. SHRI C. RAMACHANDRAIAH: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) Whether Government are maintaining any laison with the private sector which is involved in producing solar lamps, solar water heater, solar pumps and other items connected with solar energy;

(b) are there any units based in Andhra Pradesh involved in the solar energy field;

(c) if so, the details thereof;

(d) whether any effort has been made to coordinate the policies of other departments to explore the use of solar energy items; and

(e) the steps proposed to increase interest of hospitals, rural water supply programmes and irrigation departments on the benefits of using solar energy in details?

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI M. KANNAPPAN): (a) Yes, Sir. Government is implementing schemes for promotion of solar energy devices such as lanterns, domestic lighting systems, street lighting systems, PV pumps, water heating systems, cookers, PV power plants etc. through the nodal agencies of the State Governments, Indian Renewable Energy Development Agency (IREDA) and some commercial banks. Manufacturers of solar energy devices and systems in the private sector are actively participating in these schemes by either directly supplying the systems to the users or through the implementing agencies. In addition, consultation meetings are held with the industry associations as well as the manufacturers of solar energy systems.

(b) and (c) A list of manufacturers of solar photovoltaic modules and systems and BIS approved solar flat plate collector/water heating system manufacturers based in Andhra Pradesh is enclosed in Table *(See* below)

(d) and (e) As a result of the initiatives taken by the Ministry, a circular along with a set of model regulations/building bye-laws has been issued by the Ministry of Urban Affairs and Employment in April, 1999 to all State and the UT Governments, with a .request to circulate the same to the urban local bodies so that the local building bye-laws can be modified to make installation of solar water heating systems mandatory in hospitals, nursing homes, hotels, lodges, guest houses, hostels in schools and colleges, and barracks of armed forces, para military forces and police. Individual residential buildings with a plinth area of more than 150 sq. m and functional buildings of railway stations and airports and also community centres are covered by this circular.

Installation of solar water heaters has been made mandatory in functional buildings in the State sector by the Governments of Andhra Pradesh, Haryana, Himachal Pradesh, Madhya Pradesh, Rajasthan and the Union Territory of Dadra & Nagar Haveli. In addition, IREDA is organising business meets to popularise use of solar water heaters and other solar energy systems.

The Ministry is implementing a programme for deployment of PV water pumping systems for agriculture and related uses like drinking water supply. Pumping systems in the capacity range of 200 to 3000 W are included in the programme. The programme is implemented through State nodal agencies and IREDA. The Ministry is providing a subsidy of Rs. 125 per watt of PV array used with water pumping system, subject to a maximum of Rs. 2,50,000

per pumping system. In addition a soft loan from IREDA at 5% annual interest rate on the 90% of the remaining unsubsidised portion of the pump cost can be availed by the actual users. The state agencies are encouraged to use solar pumps for irrigation and related applications. In addition the Department of Drinking Water Supply is also installing solar water pumping systems for drinking water supply in some rural areas.

The Ministry is also interacting with other Ministries/Departments like Defence, Social Justice & Empowerment, Power, Rural Development, Post and other organisations like Rural Electrification Corporation and Planning Commission for formulation of policies and programmes for use of solar energy systems.

LIST OF SOLAR ENERGY SYSTEM MANUFACTURERS IN ANDHRA PRADESH

Solar Water Heating System

1. Suryodaya Hi-tech Engineering Pvt. Ltd. 1-10-68/4 Chikoti Gardens, Begumpet, Hyderabad - 500 **016**

Solar Photovoltaic Modules & Systems

1. Renewable Energy Systems Pvt. Ltd.
   D-52, Phase V Industrial Development Area, Jeedimetla
   Hyderabad - 500 037
2. M/s. Titan Consultants & Services Ltd.
   16, Aruna Enclave
   Trimulgherry Secunderabad
   - 500 015
3. M/s. ARM .Limited,
   A-9, Electronics Complex,
   Kushaiguda, Hyderabad -
   500 062
4. Premier Solar Systems (P) Ltd.,
   41 & 42, Sri Venkateshwara,
   Co-operative Industrial Estate,
   Balanagar,
   Hyderabad - 500 037

5. M/s. Photon Energy Systems Limited
Plot No. 775-K, Road No. 45 Jubilee
Hills Hyderabad - 500 033

Grants from UN for Projects in Andhra Pradesh

717. SHRI YADLAPATl VENKAT RAO: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) the details of projects started in Andhra Pradesh with the help of United Nations Developments Programme fund during the last three years, years-wise;

(b) the grants received from UN from those projects and the amount provided by the union and stale governments; and

(c) the results achieved so far?

THE MINISTER OF STATE FOR NON-CONVENTIONAL ENERGY SOURCES (SHRI M. KANNAPPAN): (a) Under United Nations Developments Programme (UNDP) a Global Environment Facility (GEF) assisted project on 'Development of High Rate Biomethanation Processes' being implemented by Ministry of Non- conventional Energy Sources, one project for biomethanation of liquid waste from slaughterhouse at M/s Al Kabeer Exports Ltd. Hyderabad was set up in Andhra Pradesh. The total cost of the project was Rs. 1 crore and it was installed and commissioned during the year 1997-98.

(b) For this project Rs. 20 lakhs was provided as central subsidy out of the UNDPGEF grant.

(c) The plant is generating about 3000 cum biogas per day, which is being used in the boiler as fuel.

Power Capacity Addition by Private Sector

718. SHRI PREM CHAND GUPTA: Will the Minister of POWER be pleased to state:

(a) whether it is a fact that a capacity addition of 17588.5 MW constituting 43.7% of the capacity to be added during the 9th Plan is proposed to be in the private sector; and

(b) how this target is going to be achieved considering that the private sector was only able to add 1430.4 MW during the 8th Plan?